Peninsula Laboratories, LLC

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Monoclonal Antibody To Human Macrophages

Possibly Recognizing A Scavenger Receptor

Monoclonal antibody PM-2K, together with X-4 (product T-1049) and X-14 (product T-1050), forms a particular group of macrophage specific antibodies which were tested at the Vth Leukocyte Typing Workshop. The PM-2K antigen was initially suspected to function as a scavenger receptor. However, experiments with CHO cells expressing Macrophage Scavenger Receptor (MSR) AI or AII showed that they were not recognized by this antibody.

Product Number:	T-1051
Clone:	PM-2K
Host species, isotype:	Mouse IgG1
Quantity:	100μg
Format:	Affinity purified, lyophilized
	Reconstitute by adding 0.5ml distilled water. This stock solution contains 0.2mg/ml IgG, phosphate buffered saline pH 7.2 (PBS), 10mg/ml bovine serum albumin (BSA) as a stabilizer and 0.01% thimerosal as a preservative.
Stability:	Original vial: 1 year at 4° - 8°C
	Stock solution or aliquots thereof: 1 year at -20°C. Avoid repeated thawing and freezing.
Applications:	Tested for immunohistochemistry (IHC).
	Approximate working dilution for IHC: Frozen sections: 0.5μg/ml (1:400) Paraffin sections: does not react on routinely processed paraffin sections.
	Optimal dilutions should be determined by the end user.
	Suggested positive control: Human tonsil.
Immunogen:	Cultured human peritoneal macrophages.
Antigen, epitope:	The antigen of 150kDa m.w. is found in the macrophage cell membrane. The epitope has not been determined.

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Antigen distribution:

Isolated cells: Positive on >90% of alveolar macrophages, and on 10% of adherent peritoneal cells after 1 day culture. Negative on dendritic cells, on freshly isolated blood monocytes or peritoneal cells; and on bone marrow cells including monocytes, myelomonocytic precursors and megakaryocytes.

Tissue sections: PM-2K stains most tissue macrophages in lymphoreticular organs such as thymus, spleen, lymph node and tonsil. It is positive on Kupffer cells of the liver, alveolar macrophages and macrophages in the interstitial tissues of the kidney, pancreas and many other organs. In Gaucher's disease multicentric reticulohistiocytosis and malignant histiocytosis proliferating macrophages are positive. In MFH infiltrating macrophages are stained but not tumour cells. Some bone stromal cells but not osteoclast-like multinucleated giant cells are stained in GCT. Microglial cells, osteoclasts and dendritic cells such as Langerhans cells, interdigitating cells and follicular dendritic cells are negative.

Specificity:

Human: Macrophages.

Other: positive on macrophages of cat, dog, pig, bovine and monkey; negative in rabbit, rat, guinea pig, gold hamster, goat, horse

Comparison of Staining Patterns of X-4[a], X-14[b] and PM-2K on different cell types

	X-4	X-14	PM-2K
Lymph nodes tingible body macrophages	±	-	±
Brain microglial cells	±	-	±
Blood monocytes 24h culture	±	-	-

+ = positive, ± = weakly positive, - = negative
a: Product T-1049
b: Product T-1050

Selected references

Shaw, S. et al. Leukocyte Typing V: White Cell Differentiation Antigens, Oxford University Press (1994) Ed. Schlossmann,S. et al. Abstracts M108, M037, M061, M081 (PM-2K Workshop Code = MC7)

Takeya, M. et al.: A New Monoclonal Antibody, PM-2K, specifically recognizes Tissue Macrophages but not Blood Monocytes. J. Pathol.: 163, 315-321 (1991).

Takeya, M. et al.: Detection of Monocyte Chemotractant Protein-1 in Human Artherosclerotic Lesions by an Anti-monocyte Chemotractant Protein-1 Monoclonal Antibody. Human Pathol.: 24(5), 534-539 (1993).

For in vitro research only. Caution: this product contains thimerosal, a poisonous and hazardous substance.